

REMARKS

In the *Office Action* of October 18, 2007, Claims 28-32, the only claims then pending, were finally rejected. Claims 28-32 were rejected under 35 USC §103(a) as obvious over *Smith* (United States Patent No. 6,364,149) in view of *Mitchell et al.* (United States Patent No. 6,224,954). Also, Claims 28-32 are rejected under 35 USC §103(a) as being unpatentable over *JP '474* (Japanese Patent 06-219474) in view of *Silver et al.* (United States Patent No. 5,145,107). *Mitchell et al.* and *Silver et al.* were cited to show that paperboard blanks for paper cups are conventional, while the rejections were based primarily on *Smith* and *JP '474*.

This response, in particular the *Declaration* under 37 CFR 1.131 and the foregoing amendments are believed to put this case in condition for allowance.

Submitted herewith is a *Declaration Under 37 CFR §1.131 of Gerald Van Handel, Exhibit 1*, showing the invention this application was conceived and substantially reduced to practice prior to the effective date of *Smith*, October 5, 1999 (*Smith* did not publish until 2002, well after the effective filing date of this case in 2001). In order to antedate a reference which is not a statutory bar, (i.e. *Smith* in this instance), an affidavit or declaration under 37 CFR 1.131 is required to show only so much as the reference shows. MPEP §715.02; *In re Stryker*, 435 F.2d 1340, 168 USPQ 372 (CCPA 1971). Here the *Declaration* establishes much more. Specifically, Dr. Van Handel made a cup from a blank which included a shrink film heat sealed at a plurality of points to paperboard and tested the cup prior to October 5, 1999. That cup was quite similar to the embodiments described in **Figures 1A-4F**, much more so than any disclosure in *Smith*. The rejection based on *Smith* is accordingly believed moot, because *Smith* is no longer a reference as to this application.

Claims 28-32 were also rejected as obvious over *JP '474* (Japanese Patent 06-219474). As to this rejection under 35 USC §103(a), Claim 28 has been amended to further differentiate the present application over *JP '474* and new independent Claims 37 and 39 contain similar features. The reasons for allowance over *JP '474* are further discussed below.

The present invention is directed generally to a container blank suitable for making paperboard cups with an insulated sidewall (as opposed to Styrofoam cups which are viewed by consumers as environmentally unfriendly) for hot liquids such as coffee. A “sleeve” for insulation is not needed as with conventional paper cups; the cup can be held comfortably without one, even when the cup is filled with very hot liquid. This aspect ameliorates waste and makes additional sleeve inventory unnecessary. There is also provided in accordance with the invention a simple construction where a planar shrink film is secured to a paper blank on both the upper and lower portions of the blank or film. Claim 28, as amended, and new Claim 37 are representative:

28. (Currently amended) A container blank, comprising:

A paperboard substrate layer suitable for forming a sidewall of a container, wherein the substrate layer has an interior and an exterior as well as upper and lower substrate layer portions corresponding to upper and lower portions of the container sidewall;

a layer consisting essentially of a single shrink film layer secured to the interior of the substrate layer on both the upper and lower portions of the substrate layer, wherein the shrink film layer is adapted to shrink away from the substrate layer upon application of heat thereto, thereby providing a shrunk film layer secured to the interior of the substrate layer on both its upper and lower portions after heat is applied to the shrink film layer; and

whereby the shrunk film layer provides at least one thermal insulating pocket between the substrate layer and the shrunk film layer and wherein the shrunk film layer is secured to both the upper and lower portions of the container sidewall when present on an interior of a container.

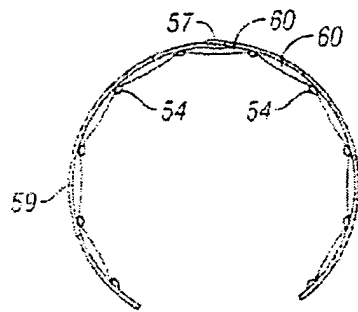
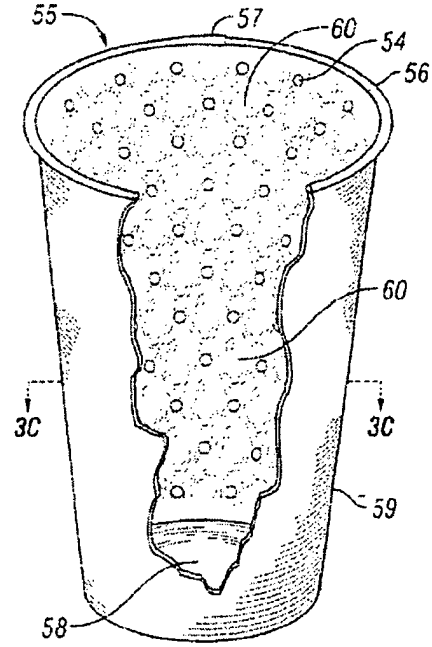
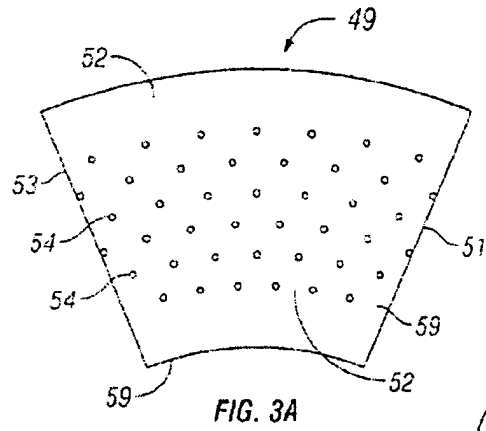
37. (New) A container blank, comprising:

A substrate layer made of a disposable material suitable for forming a sidewall of a container, wherein the substrate layer has an interior and an exterior;

a shrink film layer having upper and lower portions corresponding to their relative positions on the sidewall of the container, secured to the interior of the substrate layer on both the upper and lower portions of the shrink film layer, wherein the shrink film layer is adapted to shrink away from the substrate layer upon application of heat thereto, thereby providing a shrunk film layer secured to the interior of the substrate layer on both the upper and lower portions of the shrink film layer after heat is applied to the shrink film layer; and

whereby the shrunk film layer provides at least one thermal insulating pocket between the substrate layer and the shrunk film layer and wherein the shrunk film layer is secured at both its upper and lower portions to the container sidewall.

Support for the amendments to Claim 28 and the new claims is found throughout the specification as published, particularly paragraphs 31-45 and support is seen in **Figures 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, 3C, 4A, 4B, 4C, 4D, 4E and 4F** which illustrate specific embodiments. Consider, for example, **Figures 3A-3C**:



As well as **Figures 4D and 4E:**

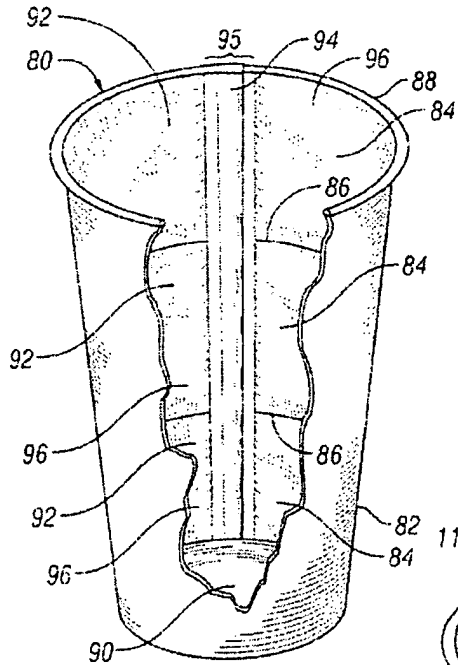


FIG. 4D

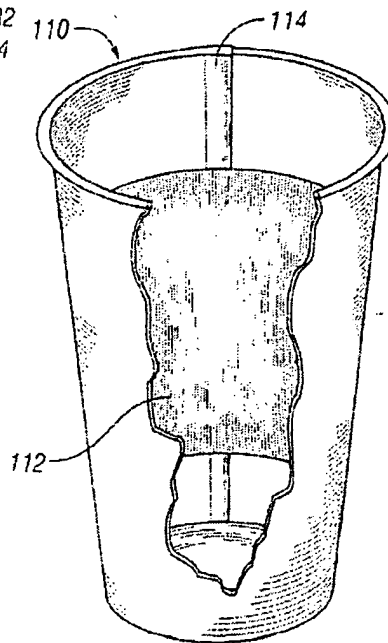


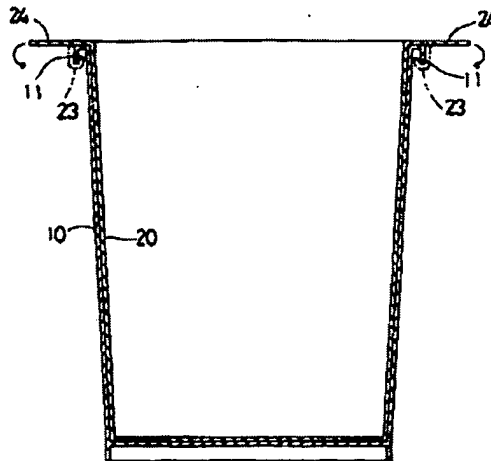
FIG. 4E

Support for new Claims 33 and 34 is found in paragraph 31, page 2 of the application as published.

Support for new Claim 35 is found in paragraph 51, page 4 of the application as published.

JP '474 does not even remotely suggest the claimed subject matter and in fact directs otherwise. Rather than using a film secured to a sidewall forming member at upper and lower portions of the sidewall, *JP '474* teaches a complex construction with an inner bilayer cup and an outer cup which is both expensive and likely ineffective in any event. Consider paragraphs 23, 24 and 25 of the enclosed translation as well as the **Figures of JP '474**:

FIG. 3



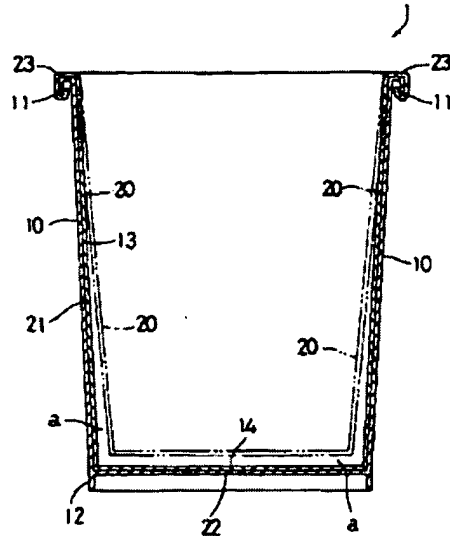
[0023] This inner cup 20 is formed as a two layer structure, comprising a polypropylene laminated layer at the inside and an outer layer wherein 50% talc has been admixed to polypropylene.

[0024] In order to manufacture a cup container 1 such as described above, first, the outer cup 10 is manufactured from paper and the inner cup 20 is formed by low temperature solid phase pressure forming, and at this time a planar flange 24 is formed at the top edge of the inner cup 20, which will become the rolled closure part 23 as a result of subsequent thermal contraction. As shown in FIG. 3, the separately formed outer cup 10 and inner cup 20 are united, with the inner cup 20 inserted into the outer cup 10, so that the faces thereof are in close contact. Then, when the flange 24 is heated with hot blown air at 250 to 500°C, because strong intermolecular orientation is also applied to the opening region by way of the low temperature solid phase pressure forming method, the flange 24 immediately softens and rolls closed around the engagement part 11 to form the rolled closure part 23.

[0025] A cup container 1 of this sort is such that the inner cup 20 is filled with a processed and seasoned food product such as ramen, the opening is closed with an easy-peel cover

or an over-cap (not shown in the drawing) and the entire [product] is packaged in a sealed manner with plastic film. Next, when the ramen is to be consumed, hot water is poured into the inner cup 20; at this time, as air can flow between the rolled closure part 23 and the engagement part 11, the inner cup 20 into which the hot water has been poured contracts as a result of this heat, and an air layer a is formed between this and the inner face 14 of the body of the outer cup 10, as indicated by the dotted and dashed line in the figure. Accordingly, because the air layer a is present between the inner cup 20 and the outer cup 10, this air layer a exhibits a heat insulation effect so that heat is prevented from reaching the outer face of the outer cup 10.

FIG. 1



It is plain from the foregoing that the inner cup of *JP '474* is difficult and expensive to make, especially compared with shrink film which is readily available and relatively inexpensive as compared with a custom made, cold-drawn cup as proposed by *JP '474*. Thus, *JP '474* teaches away in one significant aspect in that it teaches away from using shrink film.

It is likewise plain that from **Figure 1** and the text of *JP '474* that after shrinking, the inner cup is not secured to the sidewall of the container, not at upper and lower portions or otherwise than being attached at the brim. This is an unsecured and unstable construction which is likely to spill hot liquid and may even "invert" causing severe burns from hot liquid. Furthermore, the free hanging inner will not provide insulation when the cup is tilted, i.e. the

inner cup will bear upon the outer cup wall since it is unsecured; i.e. free-hanging. Accordingly, *JP '474* teaches away in another significant aspect in that it teaches to use a free-hanging inner liner rather than a film secured to the sidewall in a pattern.

It is further seen in **Figure 1** of *JP '474* that there is little, if any, separation between the upper portion of the liner and upper sidewall of the cup, providing no insulation in areas where it is needed. *JP '474* teaches away in still yet another significant aspect in that it teaches to provide an inner cup that separates from the sidewall only at the lower portion of the container rather than on the upper and lower portions of the sidewall.

That fact that a reference teaches away is compelling evidence as to the nonobviousness of the claimed subject matter over that reference. The Court in *In re Geisler* 43 USPQ2d 1362, 1365 (CAFC 1997) stated that even a *prima facie* case of obviousness is rebutted if it is shown that the art teaches away in any material respect and/or there are unexpected results. *Note also*, page 57,529 of the Oct. 10 *Federal Register* Vol. 72, No. 195 appearing under the heading "Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. V. Teleflex Inc.*":

Note that combining known prior art elements is not sufficient to render the claimed invention obvious if the results would not have been predictable to one of ordinary skill in the art.⁴⁸ "When the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious."⁴⁹

⁴⁰ *United States v. Adams*, 383 U.S. 39, 51-52, 148 USPQ 479, 483 (1966). In *Adams*, the claimed invention was to a battery with one magnesium electrode and one cuprous chloride electrode that could be stored dry and activated by the addition of plain water or salt water. Although magnesium and cuprous chloride were individually known battery components, the Court concluded that the claimed battery was nonobvious. The Court stated that "[d]espite the fact that each of the elements of the Adams battery was well known in the prior art, to combine them as did Adams required that a person reasonably skilled in the prior art must ignore" the teaching away of the prior art that such batteries were impractical and that water-activated batteries were successful only when combined with electrolytes detrimental to the use of magnesium electrodes. *Id.* at 42-43, 50-52, 148 USPQ at 480, 483.

In view of the large number of cancelled claims, no fees are believed due for the additional claims submitted. If additional claim fees are deemed due, please charge our Deposit Account No. 50-0935.

In view of the foregoing Amendments, Remarks and *Declaration*, this application is believed in condition for allowance. If for any reason the Examiner would like to discuss this case, the Examiner is invited to call at the number listed below.

Respectfully submitted,



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